



Forum: Economic and Social Council  
Issue: Rethinking Trade with Emission Permits in Order to Promote the  
Advantages of Renewable Energies  
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## **Table of Contents**

### **I. Introduction**

### **II. Definition of Key Terms**

- A. Greenhouse Gas Emissions**
- B. Renewable Energy**
- C. Low-Carbon Economy**
- D. Emission Permits**
- E. Emissions Trading**
- F. Emission Trading Systems**
- G. Compliance**
- H. Economic Linking**

### **III. General Overview**

- A. Background**
  - a. The Importance of Renewable Energies**
    - i. Types of Renewable Energies**
- B. Considerations for Emissions Trading Systems**
  - a. Economic Advantages**
    - i. Advantages of Renewable Energies**
  - b. Economic Disadvantages**
    - i. Disadvantages of Renewable Energies**
- C. The Current Global Climate Agenda**
  - a. Paris Agreement**
  - b. COP26**
  - c. United Nations 2030 Agenda for Sustainable Development**

### **IV. Major Parties Involved and their Views**

- A. UN**



**B. ASEAN**

**C. AU**

**D. EU**

**E. China**

**V. Timeline of Events**

**VI. Prior Attempts to Solve the Issue**

**A. The Kyoto Protocol**

**B. The Doha Amendment**

**VII. Relevant United Nations Documents & Other Sources**

**A. UN Documents**

**B. Other Sources**

**VIII. Questions to Consider**

**IX. Possible Solutions**

**A. Decentralization of Renewables**

**B. Larger(er) Scale Investments**

**C. COVID-19 & Socio-Economic Measures**

**X. Conclusion**

**XI. Bibliography**

**I. Introduction**

At the time of this writing, as of March 31, 2021, the latest Carbon Dioxide (CO<sub>2</sub>) reading was 417.17 ppm.<sup>1</sup> In 1700, the CO<sub>2</sub> reading was measured at slightly higher than 280 ppm. To put this in perspective, the *Intergovernmental Panel on Climate Change* (IPCC) released a statement saying “[Human economic activities and population growth has] led to atmospheric concentrations of carbon dioxide, methane, and nitrous oxide that are unprecedented in at least the last 800,000 years.”<sup>2</sup> There is global consensus that climate action must be taken and as such, countries have placed emphasis on executing economic systems that support economic growth, while also contributing to global climate goals.<sup>3</sup> International commitments, economic instruments, carbon taxes, innovation in low-carbon technologies, and more are the driving tools behind combatting climate change.<sup>4</sup> Such tools have supported the proliferation of renewable energies and have poised countries to be in a situation previously unprecedented. The future of the international climate agenda and the future of Earth is

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<sup>1</sup> "The Keeling Curve." <https://keelingcurve.ucsd.edu/>. Accessed 2 Apr. 2021.

<sup>2</sup> "CO<sub>2</sub> and Greenhouse Gas Emissions - Our World in Data." <https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions>. Accessed 2 Apr. 2021.

<sup>3</sup> "Emission trading systems - OECD.org." <https://www.oecd.org/environment/tools-evaluation/emissiontradingsystems.htm>. Accessed 2 Apr. 2021.

<sup>4</sup> "Tackling Climate Change and Growing the Economy - OECD." <http://www.oecd.org/env/cc/44287948.pdf>. Accessed 2 Apr. 2021.



dependent upon how well countries utilize these economic avenues and clean energy sources to protect against the detrimental effects of global warming.

## II. Definition of Key Terms

### A. Greenhouse gas emissions

A greenhouse gas (GHG) is any gas that absorbs heat energy and emits it back to the surface of Earth. These types of gases trap heat and in turn, increase the temperature of the planet. Following the Industrial Revolution, human activities have increased GHG emissions which have been responsible for major increases in main greenhouse gases such as, CO<sub>2</sub>, water vapor, nitrous oxide, methane, chlorofluorocarbons (CFCs), and ozone.<sup>5</sup>

### B. Renewable Energy

Renewable energy, commonly referred to as clean energy, originates from Earth's natural processes or sources that will never be depleted. Examples include wind and solar energy, however fracked gases, coal, and fossil fuels are not considered renewable energies as these types of energy deplete Earth's finite resources.<sup>6</sup>

### C. Low-Carbon Economy (LCE)

A low-carbon economy (LCE) is an economy that mainly derives its power needs from clean energy sources (renewable energies) as an alternative to fossil fuels and higher outputting carbon energy sources.<sup>7</sup> It's important to note that less intensive carbon energy sources are clean technologies and energies opposed to only being fuel substitutes. Furthermore, energy sources such as nuclear-generated electricity are zero-carbon sources, however, this is not a renewable energy source.<sup>8</sup>

### D. Emission Permits

Emission permits, also known as emission allowances, are a method to financially encourage companies (emitters) to limit their amount of emissions by obtaining a permit per every unit of emission. Without these permits, companies can be subject to penalties or fines. Governments determine the total number of permits that will be distributed across these

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<sup>5</sup> "greenhouse gas | Definition, Emissions ...." <https://www.britannica.com/science/greenhouse-gas>. Accessed 27 Mar. 2021.

<sup>6</sup> "Renewable Energy: The Clean Facts - NRDC." 15 Jun. 2018, <https://www.nrdc.org/stories/renewable-energy-clean-facts>. Accessed 28 Mar. 2021.

<sup>7</sup> "What is a low-carbon economy? - The Lighthouse - Macquarie ...." 15 Mar. 2019, <https://lighthouse.mq.edu.au/article/please-explain/march-2019/what-is-a-low-carbon-economy>. Accessed 28 Mar. 2021.

<sup>8</sup> "Renewable Energy | Types, Forms & Sources | EDF (edfenergy.com)." <https://www.edfenergy.com/for-home/energywise/renewable-energy-sources>. Accessed 28 Mar. 2021.



companies based upon the environmental impact.<sup>9</sup> Emission permits are part of a long term global goal to reduce (greenhouse gas) emissions.

### **E. Emissions Trading**

Emission permits are part of a progressive process known as emissions trading. Emissions trading is a cost-effective strategy to encourage companies to reduce their emissions by obtaining a permit via trading with additional companies or from the government. Governments have the option to auction off the permits or give them away for free. Companies that do not have enough permits must reduce their emissions or purchase permits from another company. However, some firms will find that it's less expensive to reduce emissions and instead will choose to sell these permits.<sup>10</sup> The price of permits can depend on the supply of offered for-sale permits and the demand for such permits from these companies.

### **F. Emission Trading Systems (ETS)**

Coalitions of governments can mandate systems of emissions trading, known as Emissions Trading Systems or Emissions Trading Schemes (ETS). This allows the governments to financially incentivise companies to reduce emissions.<sup>11</sup> There are two primary types of these trading systems: "baseline-and-credit systems" and "cap-and-trade systems." Under the cap-and-trade system, the government sets a predetermined limit or cap on the amount of emissions that can be produced and permits can be auctioned or distributed free of charge. In the baseline-and-credit system, there is no cap on emissions, however firms that reduce their emissions more than they are required to, can earn credits. These firms can then sell these credits to other firms who also must comply with the regulations.<sup>12</sup>

### **G. Compliance**

The context of this word varies upon its usage, but for ETSs, compliance refers to the act of adhering to regulations, requirements, or standards. In this case, it refers to how much companies abide by the standards set by the government in their emissions. It can also refer to regular procedures of reporting, verifying, and monitoring compliance within an ETS. Compliance processes can depend on the governmental standards that are set.<sup>13</sup>

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<sup>9</sup> "Emission permits - Financial Dictionary - The Free Dictionary."  
<https://financial-dictionary.thefreedictionary.com/emission+permits>. Accessed 27 Mar. 2021.

<sup>10</sup> "How do emissions trading systems work? - Grantham Research ...." 11 Jun. 2018,  
<https://www.lse.ac.uk/granthaminstitute/explainers/how-do-emissions-trading-systems-work/>. Accessed 27 Mar. 2021.

<sup>11</sup> "EU Emissions Trading System (EU ETS ...." [https://ec.europa.eu/clima/policies/ets\\_en](https://ec.europa.eu/clima/policies/ets_en). Accessed 27 Mar. 2021.

<sup>12</sup> "Emission trading systems - OECD.org."  
<https://www.oecd.org/environment/tools-evaluation/emissiontradingsystems.htm>. Accessed 27 Mar. 2021.

<sup>13</sup> "Monitoring, reporting and verification of EU ETS emissions | Climate ...."  
[https://ec.europa.eu/clima/policies/ets/monitoring\\_en](https://ec.europa.eu/clima/policies/ets/monitoring_en). Accessed 28 Mar. 2021.



## H. Economic Linking

The process of economic linking occurs between two or more different ETSs. There are two primary ways of linking, direct linking and indirect linking. According to a report on *Considering the Effects of Linking Emissions Trading Schemes*, the first type of direct linking is known as “a one-way unilateral link: one ETS accepts the emission permits of another ETS for compliance purposes, but not vice versa.” The second method of direct linking is “a two-way bi- or multilateral link: each ETS accepts the compliance instruments of the other ETS for compliance purposes.” In indirect linking, “an ETS can be indirectly linked with an ETS even if it does not accept compliance instruments from that scheme. This is the if ETS has a unilateral or bilateral link to another ETS that has a direct link to the third ETS.”<sup>14</sup>

## III. General Overview

### A. Background

Economies are dependent upon companies and as such, companies pollute the environment. Market-based approaches such as emissions trading and systems are one of the main economic and governmental initiatives to combat climate change and advance the international reduction in emissions.<sup>15</sup> The importance of emissions trading is that it focuses upon the reduction of emissions, primarily GHGs, in order to reach low-carbon economies and subsequently a low carbon environment. However in order to achieve global long-term sustainability through these low-carbon economies, renewable energies must be utilized because they're a zero or low-carbon source.

#### 1. The Importance of Renewable Energies

In order to reach low-carbon economies, there is a major emphasis on the development and implementation of renewable energy. Renewable energies are the primary method to reduce the global temperature and the negative impacts of climate change because they do not emit GHGs that lead to global warming. However, these clean technologies aren't limited only to the benefits of reducing emissions. This industry sector is responsible for creating jobs and expanding access to clean energy in Least Developed Countries (LDCs) and Less Economically Developed Countries (LEDCs). Since the Industrial Revolution, human reliance on fossil fuels such as coal and oil have powered economies, but have negatively impacted the environment.<sup>16</sup>

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<sup>14</sup> "Considering the Effects of Linking Emission Trading ... - adelphi." [https://www.adelphi.de/en/system/files/mediathek/bilder/Linking\\_manual%20Copy.pdf](https://www.adelphi.de/en/system/files/mediathek/bilder/Linking_manual%20Copy.pdf). Accessed 28 Mar. 2021.

<sup>15</sup> "Economics of Climate Change | Environmental Economics | US EPA." <https://www.epa.gov/environmental-economics/economics-climate-change>. Accessed 28 Mar. 2021.

<sup>16</sup> "Renewable energy, facts and information - National Geographic." 30 Jan. 2019, <https://www.nationalgeographic.com/environment/article/renewable-energy>. Accessed 28 Mar. 2021.



Renewable energy, also known as renewables, provides a new sustainable alternative source of energy.

**a) Types of Renewable Energies**

There are a variety of renewables or clean technologies. The ones below are some of the primary types, but it's important to note that there are more and there can be subsets to these types of technologies. Delegates should conduct their own research on if any specific technologies hold potential and which (if any) technologies are most and the best utilized by their respective countries.

**(1) Hydropower**

Hydropower systems use moving water to create electricity. These systems have three main parts: a reservoir for water storage, a dam to manage water flow, and a power plant for the production of electricity. Water is utilized to turn blades in a turbine which subsequently spins and allows a generator to produce electricity. Additionally, tidal plants can also be utilized to produce energy. Tidal energy is part of the umbrella, hydropower, however it allows for a conversion of tidal energy into electricity.<sup>17</sup>

**(2) Wind**

Like hydropower, wind energy also uses turbines to generate electricity. It is a common and highly reliable renewable energy source. The EU and Britain rely on the benefits provided by wind energy and have a total net capacity of 189 GW.<sup>18</sup>

**(3) Solar Energy**

**(a) Solar Photovoltaics (PV)**

Solar power is considered to be a rapidly growing industry and renewable technology. Solar PV is projected to account for roughly 22% of global electricity by 2050. The installations of solar panels also have benefits in connection with other systems of renewable energy. Some examples

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<sup>17</sup> "Tidal Renewable Energy | Hydropower | Low Carbon."  
<https://www.lowcarbon.com/climate-change-and-renewables/hydropower-and-tidal-energy/>. Accessed 5 Apr. 2021.

<sup>18</sup> "Renewable Wind Energy | Low Carbon."  
<https://www.lowcarbon.com/climate-change-and-renewables/wind-energy-offshore-and-onshore/>. Accessed 5 Apr. 2021.



include wind turbines, solar thermal systems, heat pumps, and energy storage.<sup>19</sup>

#### **(b) Concentrated Solar Power (CSP)**

Reflective lenses are used to focus sunlight to a receiver where light concentrations are converted to heat. This process is where sunlight transforms to thermal energy in order to heat water. There are large plants that develop and maintain this process to generate electricity despite any form of weather. The European Commission's Institute for Energy reported that 0.3% of the sunlight shining in Middle Eastern deserts and in the Sahara, could meet the demand of energy across all of Europe.<sup>20</sup>

#### **(4) Biomass**

According to National Geographic, "biomass energy is energy generated or produced by living or once-living organisms. The most common biomass materials used for energy are plants, such as corn and soy..."<sup>21</sup> As a result of these commonly used biomass materials, organisms can be burned efficiently to generate heat or for conversion into electricity.

#### **(5) Geothermal**

Geothermal energy arrives at the Earth's surface via water or steam. It is heat extracted from Earth's sub-surface. The IRENA states that this is a major renewable source, which covers an essential demand for electricity, "in countries like Iceland, El Salvador, New Zealand, Kenya, and Philippines and more than 90% of heating demand in Iceland."<sup>22</sup> This class of energy is not reliant upon weather conditions and can provide flexible responses to the growing need for energy.

### **B. Considerations for Emissions Trading Systems**

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<sup>19</sup> "Solar Photovoltaics (PV) | Low Carbon." <https://www.lowcarbon.com/climate-change-and-renewables/solar-photovoltaics/>. Accessed 5 Apr. 2021.

<sup>20</sup> "Concentrated Solar Power | Low Carbon." <https://www.lowcarbon.com/climate-change-and-renewables/concentrated-solar-power/>. Accessed 5 Apr. 2021.

<sup>21</sup> "biomass energy | National Geographic Society." 19 Nov. 2012, <https://www.nationalgeographic.org/encyclopedia/biomass-energy/>. Accessed 5 Apr. 2021.

<sup>22</sup> "IRENA.org: Geothermal Energy." <https://www.irena.org/geothermal>. Accessed 5 Apr. 2021.



Although the COVID-19 pandemic has had detrimental effects on economies around the world, countries' commitment to progressive climate policies have not stopped. Countries across the world have implemented ETSs with the number reaching 21 ETSs globally as of January 2020.<sup>23</sup> There are 21 ETSs including systems in four continents, with major carbon markets such as the European Union (EU), New Zealand, Quebec, and California. Developments in the recent year of these market systems have resulted in increased protections and stronger incentives to reduce emissions amid the economic disruptions as a result of the pandemic. For instance, the EU ETS and Swiss ETSs have finalized a link between their respective systems with Mexico implementing a mandatory pilot ETS, and a Korean ETS initiating the auctioning of emission permits.<sup>24</sup> With the widespread adoption of these systems, it's important to consider the economic advantages and disadvantages and where renewable energies fit into this market.

### **1. Economic Advantages**

With countries advancing their climate agendas and contributing to the global climate agenda (See The Current Global Climate Agenda), there are advantages resulting in a global adoption of the ETS market strategy. ETSs now account for a higher and consistently increasing share of GHG emissions, economic output, and the global population. In 2020, roughly one-sixth of this global population lived under an ETS with these systems representing 9% of GHG emissions internationally. Additionally, the global gross domestic product (GDP) covered by ETSs rose from 37% in 2019 to 42% in 2020. Furthermore, as of 2020 the International Carbon Action Partnership (ICAP) projects that in 2021, 14% of global emissions will now be under an ETS. Moreover, since 2009 auctioning emission permits has created 78 billion USD in revenue. This funding has been subsequently used to encourage climate initiatives in sectors such as transport, energy, and has also been used to advance compensation for groups socially disadvantaged. In 2019, 18 governments were considering an ETS or in the process of developing one. But this number grew in 2020 to 24 governments considering an ETS as well as individual states pursuing an ETS, such as the case with the US.<sup>25</sup>

#### **a) Advantages of Renewable Energies**

There are many advantages to renewable energies which can be promoted through the usage of ETSs. There are four important pillars of

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<sup>23</sup> "International Carbon Action Partnership (ICAP) - ICAP Status Report ...."  
<https://icapcarbonaction.com/en/icap-status-report-2020>. Accessed 28 Mar. 2021.

<sup>24</sup> "International Carbon Action Partnership (ICAP) - ICAP Status Report ...."  
<https://icapcarbonaction.com/en/icap-status-report-2020>. Accessed 28 Mar. 2021.

<sup>25</sup> "International Carbon Action Partnership (ICAP) - ICAP Status Report ...."  
<https://icapcarbonaction.com/en/icap-status-report-2020>. Accessed 28 Mar. 2021.



renewable energy advantages as defined by the International Renewable Energy Agency (IRENA). There four include employment, health, resilience, and the accessibility to energy.<sup>26</sup>

In 2019, renewables accounted for approximately 11.5 million jobs globally which was an increase from the 11 million in 2018.<sup>27</sup> Asia accounted for nearly 63% of total jobs in the renewable energy sector. The widespread use of solar photovoltaic (PV) panels has been primarily responsible for the majority of the growth seen in renewables. In 2019, solar PV was responsible for 33% of the global renewable energy labor force.

Renewable energy has many benefits in terms of human health. Sources of renewable energy including hydropower, solar, and wind produce little to no amounts of air pollution. Roughly 2.9 billion people rely on materials such as charcoal, coal, and wood to power their homes. However, these materials can pollute the air and negatively impact the health of people. Clean technologies (renewables) can reduce the amount of pollutants in the air and in turn, can reduce the negative health effects associated with breathing polluted air.<sup>28</sup>

In addition to these benefits, renewables are also more adaptable in higher stakes situations such as during emergencies or severe weather. This is primarily due to the development of these technologies as they are built modularly and are less likely to have large scale interruptions or failures. This can conserve time, costs, and liability because the infrastructure of renewable energy is different from fossil fuels and more conventional energy sources.<sup>29</sup>

Moreover, one billion people do not have a reliable supply of electricity and an additional one billion do not have access to electricity. According to the IRENA, “Improved reliability, rapidly falling technology costs and supportive policies have made stand-alone and mini-grid renewable

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<sup>26</sup> "Benefits - International Renewable Energy Agency." <https://www.irena.org/benefits>. Accessed 1 Apr. 2021.

<sup>27</sup> "Renewable Energy and Jobs – Annual Review 2020." <https://www.irena.org/publications/2020/Sep/Renewable-Energy-and-Jobs-Annual-Review-2020>. Accessed 1 Apr. 2021.

<sup>28</sup> "Benefits - International Renewable Energy Agency." <https://www.irena.org/benefits>. Accessed 1 Apr. 2021.

<sup>29</sup> "Benefits - International Renewable Energy Agency." <https://www.irena.org/benefits>. Accessed 1 Apr. 2021.



electricity solutions viable for the 80% of those without access in rural areas or small developing island states.”<sup>30</sup>

## 2. Economic Disadvantages

ETSs are becoming a global tool of trade, climate change policy, and economic stimulation yet, with all of these benefits, there are disadvantages to consider in further implementations of these systems, especially when thinking about renewable energies. One major argument in opposition to ETSs is that companies not participating in these systems, which are exempt from regulations, have a better financial position by remaining outside of an ETS.<sup>31</sup> Therefore this reduces the impact that an ETS would hold in certain economies with lower numbers of firms participating. Another economic disadvantage of these schemes can be demonstrated within the EU ETS. With schemes as large as the EU ETS and additional ones developing in larger sizes, weaknesses in the EU ETS such as a lack of systems for verification, reporting, and monitoring have presented additional challenges. According to a special report in 2015 from the European Court of Auditors, “Competent Authorities did not adequately check the work performed by verifiers, and performed limited on-the-spot checks as installation level.”<sup>32</sup> Emissions trading requires governmental and regulatory oversight to manage the financial incentives, GHGs and other emissions as well as other factors. Without a high level of this oversight, the relative effectiveness of these schemes are called into question. Another consideration for ETSs are the pricing signals that are established. Economic trading systems must establish a price that is adequate in encouraging innovation and company growth. As seen with the beginning phases of the EU ETS, there was a large increase in carbon prices on the market (30 Euros per CO<sub>2</sub> ton) with a resulting expectation that this high price would remain and encourage company innovation.<sup>33</sup> However, this model brings up concerns of price sustainability in the long-term and would as a result impact companies’ incentive to participate in these systems. This

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<sup>30</sup> "Benefits - International Renewable Energy Agency." <https://www.irena.org/benefits>. Accessed 1 Apr. 2021.

<sup>31</sup> "How do emissions trading systems work? - Grantham Research ...." 11 Jun. 2018, <https://www.lse.ac.uk/granthaminstitute/explainers/how-do-emissions-trading-systems-work/>. Accessed 2 Apr. 2021.

<sup>32</sup> "The integrity and implementation of the EU ETS - European Court of ...." [https://www.eca.europa.eu/Lists/ECADocuments/SR15\\_06/SR15\\_06\\_EN.pdf](https://www.eca.europa.eu/Lists/ECADocuments/SR15_06/SR15_06_EN.pdf). Accessed 2 Apr. 2021.

<sup>33</sup> "Climate change policy, innovation and growth - LSE." <https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2016/01/Dechezlepretre-et-al-policy-brief-Jan-2016.pdf>. Accessed 2 Apr. 2021.



pricing uncertainty could also lead to implementation of other emission reduction economic policies which could also render emissions trading systems less productive.<sup>34</sup>

#### a) **Disadvantages of Renewable Energies**

Although there are many benefits to renewables, there are also many economic challenges. Renewables are relatively new to the market in comparison with fossil fuels, an alternative source of energy that is traditionally known to be very inexpensive. A primary concern of renewables are the expenses associated with execution. For instance, wave generators, hydroelectric power stations, solar cells, wind turbines, and more, are all examples of clean energy sources, but they can be very expensive to develop and to execute.<sup>35</sup> This can present challenges to developing economies (LEDCs) as well as drive down the economic motivation for ETs and further development of the renewable energy sector. Another potential disadvantage to renewables is that many still produce trace amounts of emissions. While renewables are a much cleaner technology and energy source than more conventional energy types, many can still produce different varieties of pollution such as, biomass, solid waste energy, and wind turbines. For example, biomass power can result in air pollution, solid waste energy generate large landfills, and wind turbines can create noise pollution, damaging the natural habitat of birds and other wildlife.<sup>36</sup>

### C. **The Current Global Climate Agenda**

The global response to climate change has yielded an active and aggressive response to reduce emissions causing global warming. Governments and businesses worldwide have prioritized climate action even amid the global pandemic and committed to net zero emissions and zero-carbon economies by 2050. The UN Race to Zero campaign highlights alliances with 45 major investors, 549 universities, 1,101 businesses, 452 cities, and 22 regions. One of the UN's largest steps in the climate agenda is the Business Ambition for 1.5 degrees Celsius.<sup>37</sup> This initiative is in conjunction with the UN Race to Zero. It's aimed at small businesses and

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<sup>34</sup> "EU emissions trading: 5 reasons to scrap the ETS | Corporate ...." 26 Oct. 2015, <https://corporateeurope.org/en/environment/2015/10/eu-emissions-trading-5-reasons-scrap-ets>. Accessed 2 Apr. 2021.

<sup>35</sup> "Pros and cons of renewable energy resources - Generation of ... - BBC." <https://www.bbc.co.uk/bitesize/guides/zbsdmp3/revision/4>. Accessed 2 Apr. 2021.

<sup>36</sup> "Pros, cons of renewable energy sources - Detroit Free Press." 10 Oct. 2015, <https://www.freep.com/story/money/business/2015/10/10/renewable-energy-sources/73611806/>. Accessed 2 Apr. 2021.

<sup>37</sup> "Business Ambition for 1.5°C commitment letter - Science Based ...." 3 Mar. 2021, <https://d306pr3pise04h.cloudfront.net/docs/publications%2FBusiness-Ambition-for-1.5C-Pledge.pdf>. Accessed 2 Apr. 2021.



conglomerations to set emission reduction targets.<sup>38</sup> Global enterprises such as Facebook, C.P. Group, and LafargeHolcim are participating in both of these initiatives signifying the time-sensitive need for global climate reform.

### **1. Paris Agreement**

One such agreement advancing nations' commitment to climate accountability is the Paris Agreement. The Paris Agreement is an international legally binding treaty on climate change. In December of 2015, it was endorsed by 197 parties at the Conference of the Parties 21 (COP 21), but six parties have not ratified their approval.<sup>39</sup> The major goal of this treaty is to limit Earth's temperature to an ideal 1.5 degrees celsius maximum rise above what the global temperature was pre-industrialization. The agreement is inclusive of reducing GHG emissions to zero by 2050 (See above The Current Global Climate Agenda). In order to achieve this agenda, in 2020 countries must have submitted social and economic measures for their individual climate actions in the form of national determined contributions (NDCs). Through these steps of climate mitigation, zero-carbon industry solutions are now responsible for 25% of all emissions, particularly in the transportation and power sectors. The United Nations Framework Convention on Climate Change (UNFCCC) project that by 2030, zero-carbon solutions could represent more than 70% of global emissions.<sup>40</sup>

### **2. COP26**

The Conference of Parties (COP) is the UN body responsible for decisions mandated by the UNFCCC. The COP focuses on international collaboration between the 197 countries which are Parties to the UNFCCC. The COP has met since 1995 and the COP21 yielded the landmark Paris Agreement.<sup>41</sup> The COP26 was postponed due to the COVID-19 crisis until November 1-12 in 2021. The COP26 summit is widely expected to accelerate countries' commitments and accountability to climate goals.<sup>42</sup>

### **3. United Nations 2030 Agenda for Sustainable Development**

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<sup>38</sup> "Business Ambition for 1.5°C | UN Global Compact." <https://unglobalcompact.org/take-action/events/climate-action-summit-2019/business-ambition>. Accessed 2 Apr. 2021.

<sup>39</sup> "Paris Agreement - Status of Ratification | UNFCCC." <https://unfccc.int/process/the-paris-agreement/status-of-ratification>. Accessed 2 Apr. 2021.

<sup>40</sup> "The Paris Agreement | UNFCCC." <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>. Accessed 2 Apr. 2021.

<sup>41</sup> "What is the Conference of Parties of the United Nations Framework ...." <https://youth.wmo.int/en/content/what-conference-parties-united-nations-framework-convention-climate-change>. Accessed 2 Apr. 2021.

<sup>42</sup> "COP26." <https://ukcop26.org/>. Accessed 2 Apr. 2021.



The United Nations (UN) 2030 Agenda for Sustainable Development represents several goals surrounding the implementation of sustainable clean technologies. This agenda represents “a holistic approach to achieving sustainable development for all.”<sup>43</sup> Out of the 17 Sustainable Development Goals (SDGs), Goal 7, *Affordable and Clean Energy* and Goal 13, *Climate Action*, are particularly important in the promotion of renewable energies. Goal 7 requires an increase in the amount of renewable energy against the total final energy consumption (TFEC). The TFEC is the amount of “total energy consumed by end users, such as households, industry, and agriculture.”<sup>44</sup> The TFEC does not take into account the energy consumption that is used by the energy sector and is instead limited to only the end users. There is currently no specific target for this goal, however 193 countries have agreed that sustainable, reliable, affordable, and modern energy must be substantially achieved.<sup>45</sup> This goal requires that renewable energy penetration must increase in three main end uses including transport, heat, and electricity. According to the *Tracking SDG 7: The Energy Progress Report 2020*, in 2016-2017 electricity accounted for nearly two-thirds of renewable energy consumption growth with heat following at 30% and transport at 6%.<sup>46</sup> The report states that renewable energy consumption is the “final consumption of direct renewables plus the amount of electricity and heat consumption estimated from renewable energy sources.”<sup>47</sup> Direct renewables are further known as the consumption of solar thermal, geothermal, and bioenergies. The importance of Goal 7 is not only in the progress of renewables, but in countries' progress toward more sustainable and robust usages of renewable energies.

#### IV. Major Parties Involved and their Views

##### A. UN

The UN plays a critical role in the facilitation of countries individually agreed upon goals for climate action. The UNFCCC is one of the leading UN bodies among others such as the IPCC, World Meteorological Organization (WMO), United Nations Environment program (UNEP), COP, Conference of the Parties to the Kyoto Protocol (CMP), and the

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<sup>43</sup> “#Envision2030: 17 goals to transform the ....”

<https://www.un.org/development/desa/disabilities/envision2030.html>. Accessed 28 Mar. 2021.

<sup>44</sup> “Glossary:Final energy consumption - Statistics Explained - europa.eu.” 3 Sep. 2018, [https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Final\\_energy\\_consumption](https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Final_energy_consumption). Accessed 28 Mar. 2021.

<sup>45</sup> “Sustainable Development Goals Officially Adopted by 193 Countries ....” <http://www.un.org.cn/info/6/620.html>. Accessed 28 Mar. 2021.

<sup>46</sup> “THE ENERGY PROGRESS REPORT - Tracking SDG7 - ESMAP.” [https://trackingsdg7.esmap.org/data/files/download-documents/tracking\\_sdg\\_7\\_2020-full\\_report\\_-\\_web\\_0.pdf](https://trackingsdg7.esmap.org/data/files/download-documents/tracking_sdg_7_2020-full_report_-_web_0.pdf). Accessed 28 Mar. 2021.

<sup>47</sup> “THE ENERGY PROGRESS REPORT - Tracking SDG7 - ESMAP.” [https://trackingsdg7.esmap.org/data/files/download-documents/tracking\\_sdg\\_7\\_2020-full\\_report\\_-\\_web\\_0.pdf](https://trackingsdg7.esmap.org/data/files/download-documents/tracking_sdg_7_2020-full_report_-_web_0.pdf). Accessed 28 Mar. 2021.



Conference of the Parties to the Paris Agreement (CMA). All of these organs, conferences, and intergovernmental organizations establish the goals of the UN Charter and further the call for global cooperation on the climate agenda. The IPCC is known as “the leading international body for the assessment of climate change.”<sup>48</sup> The IPCC was founded by the WMO and the UNEP in 1988 to amplify established scientific views to support countries’ policy making with regards to socioeconomic and environmental considerations. The WMO is a specialized UN agency that coordinates verification of different meteorological observations which symbolize (the impact of) climate change. Although not previously mentioned, the Green Climate Fund is a significant financial structure within the UNFCCC. Its purpose is to collect and distribute financial resources to LDCs and LEDCs to establish equitable adaptations and mitigation efforts of climate change.<sup>49</sup> Other important organizations that collaborate with the UN include the IRENA, International Energy Agency (IEA), and the World Economic Forum.<sup>50</sup>

## **B. ASEAN**

The Association of Southeast Asian Nations (ASEAN) is a regional and economic organization bringing Southeast Asian countries together. It includes Viet Nam, Thailand, Singapore, the Philippines, Myanmar, Malaysia, Laos, Cambodia, Indonesia, and Brunei.<sup>51</sup> As a result of increasing economic growth rates higher than MEDCs, LEDCs are experiencing higher rates of GHG emissions. Southeast Asian countries are critical due to their part in reducing GHG emissions, but also in their vulnerabilities to the impacts of climate change. As stated by the Asian Development Bank, “in Asia and the Pacific region, there are 11 [economic trading] systems operating, with more being planned.”<sup>52</sup> With the development of these ETs, a variety of economic possibilities and their respective challenges arise. Future (carbon) linking with other international, national, and sub-national ETs as well as concerns about verification processes, operational capacities, fraud, and general knowledge of these systems have been voiced by Thailand, Indonesia, and Viet Nam.<sup>53</sup>

## **C. AU**

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<sup>48</sup> "At the United Nations - Climate Change - A Global Issue - Research ...." 30 Nov. 2020, <https://research.un.org/en/climate-change/un>. Accessed 5 Apr. 2021.

<sup>49</sup> "At the United Nations - Climate Change - A Global Issue - Research ...." 30 Nov. 2020, <https://research.un.org/en/climate-change/un>. Accessed 5 Apr. 2021.

<sup>50</sup> "15 International Organizations Commit to Climate Neutrality | News ...." 8 Jan. 2019, <https://sdg.iisd.org/news/15-international-organizations-commit-to-climate-neutrality/>. Accessed 5 Apr. 2021.

<sup>51</sup> "What Is ASEAN? | Council on Foreign Relations." 24 Nov. 2020, <https://www.cfr.org/backgrounder/what-asean>. Accessed 5 Apr. 2021.

<sup>52</sup> "Emissions Trading Schemes and Their Linking: Challenges and ...." <https://www.adb.org/publications/emissions-trading-schemes-and-their-linking>. Accessed 5 Apr. 2021.

<sup>53</sup> "Emissions Trading Schemes and Their Linking - Asian Development ...." <https://www.adb.org/sites/default/files/publication/182501/emissions-trading-schemes.pdf>. Accessed 5 Apr. 2021.



The African Union (AU) consists of 55 member states comprising the African Continent.<sup>54</sup> In October 2020, an AU-EU summit was held on topics of growing and renewing a partnership amid the COVID-19 pandemic, geopolitical competitors, and migration. With the upcoming AU-EU summit for the year of 2021, a key aspect of the conference will revolve around climate change and the European Green Deal.<sup>55</sup> As stated in a report from Brookings, “Africa is the most-exposed region to the adverse effects of climate change despite contributing the least to global warming.”<sup>56</sup> African countries are implementing strong policy changes and transitions to low-carbon economies in addition to more robust efforts regarding infrastructure and systems of low-carbon taxes. This is “despite only accounting for 2 percent of world coal demand, and despite the lack of leadership from some developed countries [MEDCs].”<sup>57</sup> For instance, to achieve a country target of a 52% combination with renewables by 2030, Morocco has established the largest concentrated solar energy facility. South Africa’s execution of the Carbon Tax Act is estimated to reduce emissions in the country by 33% in comparison to its initial targets. Nigeria, a country struggling with accessibility to electricity has also implemented a “renewable energy target of 30% by 2030.” Firms within the private sector of African countries, such as oil enterprises are also promoting the need for climate change mitigation. One such company is Shell. Shell has invested in solar solutions, known as SolarNow, in Kenya and Uganda.<sup>58</sup> Initiatives and investments such as these further establish the role African countries play in climate reform and socio-economic wellbeing.

#### D. EU

The European Union (EU) currently has the world’s largest and first mass scale carbon market. The EU countries participate in this ETS, in addition to Norway, Liechtenstein, and Iceland. According to the European Commission, it reduces emissions from power stations, industrial plants, and airlines operating in and between these countries. This includes an emissions reduction of over 11,000 heavy energy-using installations such as the ones above. In total, this covers 40% of the EU’s GHG emissions. This system has been in place since 2005. From 2005-2019, it has decreased emissions from installations as a byproduct of its market system by 35%. In September 2020, a plan to review the efficiency and the attainability of a

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<sup>54</sup> "About the African Union." <https://au.int/en/overview>. Accessed 6 Apr. 2021.

<sup>55</sup> "The AU-EU summit in October 2020."

<https://www.die-gdi.de/en/events/details/the-eu-au-summit-in-october-2020/>. Accessed 6 Apr. 2021.

<sup>56</sup> "Africa can play a leading role in the fight against climate change." 8 Jan. 2020, <https://www.brookings.edu/research/africa-can-play-a-leading-role-in-the-fight-against-climate-change/>. Accessed 6 Apr. 2021.

<sup>57</sup> "Africa can play a leading role in the fight against climate change." 8 Jan. 2020, <https://www.brookings.edu/research/africa-can-play-a-leading-role-in-the-fight-against-climate-change/>. Accessed 6 Apr. 2021.

<sup>58</sup> "Africa can play a leading role in the fight against climate change." 8 Jan. 2020, <https://www.brookings.edu/research/africa-can-play-a-leading-role-in-the-fight-against-climate-change/>. Accessed 6 Apr. 2021.



2050 carbon neutral EU was released. The plan assessed that to reach the goal, the GHG emission reduction target must be increased to a minimum of 55% by 2030. The revisions of current climate programs mandated within EU member states will take place with a meeting of the Commission by June of 2021. This means that legislative proposals from the Commission may include a possible expansion of the EU ETS.<sup>59</sup>

### E. China

In addition to being the world's second largest economy, China is the largest carbon emitter.<sup>60</sup> As of the first of February 2021, the People's Republic of China launched an ETS.<sup>61</sup> This is part of a long term goal of meeting a 2060 carbon neutral target all based upon market mechanisms such as ETSs.<sup>62</sup> In 2017, China began to implement a national ETS as an operational measure to financially incentivize the reduction of CO2 emissions. China's system will first focus on the allocation of emission permits to gas and coal plants. With an expansion into an additional seven sectors, China's ETS is projected to cover one-seventh of fossil fuel combustion CO2 emissions. In turn, China's ETS will be the largest scheme internationally.<sup>63</sup> Policy observers state that the Chinese ETS will be a major factor of the country's transition to clean energy.<sup>64</sup>

### V. Timeline of Events

Date	Event
1 November 1988	The Intergovernmental Panel on Climate Change (IPCC) was established.
March 21 1994	After two years, the UNFCCC entered into force with 196 Parties.
11 December 1997	On this date, The Kyoto Protocol, the first GHG emissions reduction treaty was adopted, but not in effect until 16 February 2005.
1 January 2005	As a primary EU Climate initiative, the EU Emissions Trading, the first and largest ETS, is launched.

<sup>59</sup> "EU Emissions Trading System (EU ETS ...." [https://ec.europa.eu/clima/policies/ets\\_en](https://ec.europa.eu/clima/policies/ets_en). Accessed 5 Apr. 2021.

<sup>60</sup> "The World's Largest Economies (2019-2023) - Focus Economics." 16 Feb. 2021, <https://www.focus-economics.com/blog/the-largest-economies-in-the-world>. Accessed 5 Apr. 2021.

<sup>61</sup> "Each Country's Share of CO2 Emissions | Union of Concerned ...." 12 Aug. 2020, <https://www.ucsusa.org/resources/each-countrys-share-co2-emissions>. Accessed 5 Apr. 2021.

<sup>62</sup> "China to launch national carbon emissions trading scheme on Feb 1 ...." 6 Jan. 2021, <https://www.spglobal.com/platts/en/market-insights/latest-news/coal/010621-china-to-launch-national-carbon-emissions-trading-scheme-on-feb-1>. Accessed 5 Apr. 2021.

<sup>63</sup> "The report - China's Emissions Trading Scheme – Analysis - IEA." <https://www.iea.org/reports/chinas-emissions-trading-scheme>. Accessed 5 Apr. 2021.

<sup>64</sup> "China to launch national carbon emissions trading scheme on Feb 1 ...." 6 Jan. 2021, <https://www.spglobal.com/platts/en/market-insights/latest-news/coal/010621-china-to-launch-national-carbon-emissions-trading-scheme-on-feb-1>. Accessed 5 Apr. 2021.



8 December 2012	The Doha Amendment adopted in addition to the Kyoto Protocol for the period from 2013-2020.
March 18 2015	At the Third UN World Conference, the Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted.
4 November 2016	The legally-binding Paris Agreement went into force.
1 January 2016	The 17 Sustainable Development Goals (SDGs) came into force as part of the 2030 Agenda for Sustainable Development.
1 November 2016	The Marrakech Partnership for Global Climate Action was established to further cooperation and communication between governments, regions, cities, investors, and businesses to enhance the global climate agenda.
1 March 2019	The first ‘Regional Climate Week’ takes place in Accra, Africa with following Latin American, Carribean, and Asia-Pacific countries following the rest of the year.
23 September 2019	UN Climate Action Summit hosted by UN Secretary General Antonio Guterres held to enhance carbon reduction emission goals.
25-26 January 2021	Climate Adaptation Summit hosted virtually with enhancement of SDGs and enhancing the climate agenda

## VI. Prior Attempts to Solve the Issue

### A. The Kyoto Protocol

There have been many prior attempts to solve and combat the issue of climate change. However, a most notable step to reduce global warming was the Kyoto Protocol. This protocol was adopted in December 1997, but entered into force February of 2005. The UNFCCC was the primary UN organ behind the Kyoto Protocol and engaged 192 Parties.<sup>65</sup> The protocol commits LEDCs and MEDCs to “limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets. The Convention itself only asks those countries to adopt policies and measures on mitigation and to report periodically.”<sup>66</sup> Various critiques of the Kyoto Protocol involve that it relies too heavily on industrialized countries and economies and on ETSs.<sup>67</sup> The first five year commitment period was from 2008-2012.

### B. The Doha Amendment

<sup>65</sup> "The Kyoto Protocol - Status of Ratification | UNFCCC."

<https://unfccc.int/process/the-kyoto-protocol/status-of-ratification>. Accessed 4 Apr. 2021.

<sup>66</sup> "What is the Kyoto Protocol? | UNFCCC." [https://unfccc.int/kyoto\\_protocol](https://unfccc.int/kyoto_protocol). Accessed 4 Apr. 2021.

<sup>67</sup> "The Collapse of the Kyoto Protocol and the Struggle to Slow Global ...."

<https://www.cfr.org/book/collapse-kyoto-protocol-and-struggle-slow-global-warming>. Accessed 4 Apr. 2021.



Following the expiration of the protocol, in December of 2012, the Doha Amendment was agreed upon for an adoption of a second commitment period. This commitment period would be from 2013-2020. The Doha Amendment entered into force in October 2020 with 145 ratifications. The amendment re-establishes goals of the Kyoto Protocol in addition to advancing emission reduction commitments to become legally binding. Like the Kyoto Protocol, the Doha Amendment is specifically aimed at MEDCs and economies in transitions (EITs).<sup>68</sup> The Paris Agreement is the most recent effort in solidarity with the international climate agenda.

## VII. Relevant UN Documents & Other Sources

### A. UN Documents

#### 1. The Kyoto Protocol

([https://treaties.un.org/doc/Treaties/1998/09/19980921%2004-41%20PM/Ch\\_XXVII\\_07\\_ap.pdf](https://treaties.un.org/doc/Treaties/1998/09/19980921%2004-41%20PM/Ch_XXVII_07_ap.pdf)) 16 February 2005 (No. 30822)

This is one of the most significant documents for the foundation for the current global climate agenda as well as all following subsequent treaties and agreements.

#### 2. The Doha Amendment

(<https://treaties.un.org/doc/Treaties/2012/12/20121217%2011-40%20AM/CN.718.2012.pdf>) 8 December 2012 (No. \_\_\_)

The separate amendment for the second commitment period to the Kyoto Protocol

#### 3. Sendai Framework for Disaster Risk Reduction

([https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A\\_RES\\_69\\_283.pdf](https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_69_283.pdf)) 3 June 2015 (No. 69/283)

A separate resolution adopted by the UN General Assembly to combat climate change and climate disaster prevention.

#### 4. Paris Agreement

([https://unfccc.int/sites/default/files/english\\_paris\\_agreement.pdf](https://unfccc.int/sites/default/files/english_paris_agreement.pdf)) 12 December 2015 (No. \_\_\_)

The most recent and arguably largest international step to strengthen action in preserving the environment and reducing the negative effects of climate change.

### B. Other Sources

#### 1. Organization for Economic Co-operation and Development Emissions (OECD)

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<sup>68</sup> "Doha Amendment to Enter into Force | News | SDG Knowledge Hub ...." 8 Oct. 2020, <https://sdg.iisd.org/news/doha-amendment-enters-into-force/>. Accessed 4 Apr. 2021.



2. [International Energy Agency](#) (IEA)
3. [International Renewable Energy Agency](#) (IRENA)
4. [Intergovernmental Panel on Climate Change](#) (IPCC)
5. [World Economic Forum](#) (WEF)

## VIII. Questions to Consider

1. What are the benefits and implications of using emission permits to incentivize emission reduction measures for companies? For governments?
2. How do different economies respond to the usage of emission permits and trading?
3. What countries are advantaged by Emission Trading Systems? What countries are disadvantaged?
4. How do Less Economically Developed Countries (LEDCs) respond to ETSs?
  - a) Are there trends between developing economies and their involvement in a national, regional, or international ETS?
5. How do More Economically Developed (MEDCs) respond to ETS?
6. How does ETS impact local, state, and federal policies and/or governments?
7. How does emissions trading change the scope of renewable energy usage and production?
8. Are there better alternatives than emissions trading to promote renewable energies?
9. Would renewables proliferate the market to the same degree today, if it were not for ETSs?
10. What socio-economic initiatives, policies, or legislation increase or decrease equity across the whole global community? What about for individual member states?

## IX. Possible Solutions

There are many solutions to strengthen ETSs, reduce carbon and other emissions, and promote the proliferation of renewable energy, all in the effort to advance the climate agenda and reduce global warming. In order to strengthen economies worldwide while simultaneously impacting our climate in a positive way, it is critical to invest in renewables which in turn can downgrade transport emissions, protect the environment, enrich energy efficiency, and increase jobs in an already growing sector.<sup>69</sup>

### A. Decentralization of Renewables

To reach goals such as capping global warming at 1.5 degrees Celsius, solutions must address the rapid need to respond robustly including but not limited to, decentralizing renewable energy sources in countries like LDCs and LEDCs. Even with “Asia expected to expand electricity access to 98

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<sup>69</sup> "Renewable Energy And Climate Change | Low Carbon."  
<https://www.lowcarbon.com/climate-change-and-renewables/>. Accessed 4 Apr. 2021.



percent of the region's population by 2030," and Sub-Saharan African countries including South Africa, Senegal, Rwanda, Kenya, Ghana, and Ethiopia expected to reach universal access, these implementations would not be enough without decentralized clean technology systems.<sup>70</sup> Further, 36% of the population in Sub-Saharan Africa is expected to be without access to electricity by 2030.<sup>71</sup> Therefore, decentralization of renewables, paricialr electricity, would increase accessibility and connect communities across regional barriers.

## **B. Large(r) Scale Investments**

In accordance with the Paris Agreement, private investors, company investments, and governmental investments must be made to enhance a robust socio-economic development transition to renewables.<sup>72</sup> Such investments would also continue to maintain temperatures to be "well below two degrees Celsius."<sup>73</sup> Due to such investments, by 2050 global jobs in renewables are projected to increase to 42 million, four times more than the current number. The Global Renewables Outlook: Energy Transformation 2050 report from the IRENA states, "Energy efficiency measures would create 21 million and system flexibility 15 million additional jobs."<sup>74</sup> Beyond these measures, CO2 emissions must reach net zero via the pursuance of "innovative technologies, business models and behavioral adaptation[s]."<sup>75</sup>

## **C. COVID-19 & Further Socio-Economic Measures**

The SARS-CoV-2 virus presents an unprecedented crisis and a unique problem to the global economy.<sup>76</sup> With the declaration of the COVID-19 pandemic and increasing mortality rates, economies suffered worldwide which presented an even larger challenge to address the growing calls for climate action. At the time of writing this report, we are over a year past the beginning of the pandemic and governments are beginning to consider and implement transitions to recover further. This is in

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<sup>70</sup> "THE ENERGY PROGRESS REPORT - Tracking SDG 7 - ESMAP."

[https://trackingsdg7.esmap.org/data/files/download-documents/tracking\\_sdg\\_7\\_2020-full\\_report\\_-\\_web\\_0.pdf](https://trackingsdg7.esmap.org/data/files/download-documents/tracking_sdg_7_2020-full_report_-_web_0.pdf). Accessed 4 Apr. 2021.

<sup>71</sup> "THE ENERGY PROGRESS REPORT - Tracking SDG 7 - ESMAP."

[https://trackingsdg7.esmap.org/data/files/download-documents/tracking\\_sdg\\_7\\_2020-full\\_report\\_-\\_web\\_0.pdf](https://trackingsdg7.esmap.org/data/files/download-documents/tracking_sdg_7_2020-full_report_-_web_0.pdf). Accessed 4 Apr. 2021.

<sup>72</sup> "Global Renewables Outlook: Energy transformation 2050 - IRENA."

<https://www.irena.org/publications/2020/Apr/Global-Renewables-Outlook-2020>. Accessed 4 Apr. 2021.

<sup>73</sup> "Global Renewables Outlook: Energy transformation 2050 - IRENA."

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<sup>74</sup> "Global Renewables Outlook: Energy transformation 2050 - IRENA."

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<sup>75</sup> "Global Renewables Outlook: Energy transformation 2050 - IRENA."

<https://www.irena.org/publications/2020/Apr/Global-Renewables-Outlook-2020>. Accessed 4 Apr. 2021.

<sup>76</sup> "Coronavirus: The world economy at risk - OECD." 2 Mar. 2020,

<https://www.oecd.org/berlin/publikationen/Interim-Economic-Assessment-2-March-2020.pdf>. Accessed 4 Apr. 2021.



conjunction with the development of vaccines and initiatives such as COVAX.<sup>77</sup> Recovery operations in a current and post-pandemic world must include, “flexible power grids, efficiency solutions, electric vehicle charging, energy storage, interconnected hydropower, green hydrogen and other technology investments consistent with long-term energy and climate sustainability.”<sup>78</sup> Beyond these recommendations, to benefit the energy transition to renewables and truly maximize its benefits, measures including market inventions such as ETSs, “industrial policies, educational and skills development and social protection programmes,” must be taken.<sup>79</sup> A variety of unique challenges demands a variety of unique solutions such as the ones proposed above. This enables individual governments and their respective leaders to adapt to the growing climate crisis while in turn, supporting the growth of their economy and subsequently, a stronger wellbeing of their people.

## **X. Conclusion**

With a growing climate crisis and population growth in conjunction with the SARS-CoV-2 pandemic, the intercontinental environmental agenda can seem out of reach. To the contrary, now more than ever countries have the resources, financial support, and cooperation of other states to mitigate global warming and to further equitable solutions and distribution to member states that require the most aid.<sup>80</sup> If we want to see a net-zero future across socio-economic divides and internationally, it necessitates the need for a global call-to-action and a global response. Without such measures, more so than now, countries will experience a wider range of the considerable negative impacts of climate change. As delegates, it’s your responsibility to research, ideate, and solidify actionable solutions and policy with other member states. In order to do this, delegates must address the growing needs for socio-economic equity, reduce carbon and other GHG emissions, implement incentivizing market techniques and instruments, and continue to stimulate economic growth by clean technologies such as renewable energies. This report provides and acts as a baseline to help delegates understand and positively contribute to the global community. Global issues such as climate change require exhaustive efforts and necessitate a need for local, state, and federal, and international action in order to truly enhance and reduce our environmental footprint.

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<sup>77</sup> "COVAX - WHO | World Health Organization." <https://www.who.int/initiatives/act-accelerator/covax>. Accessed 4 Apr. 2021.

<sup>78</sup> "Global Renewables Outlook: Energy transformation 2050 - IRENA." <https://www.irena.org/publications/2020/Apr/Global-Renewables-Outlook-2020>. Accessed 4 Apr. 2021.

<sup>79</sup> "Global Renewables Outlook: Energy transformation 2050 - IRENA." <https://www.irena.org/publications/2020/Apr/Global-Renewables-Outlook-2020>. Accessed 4 Apr. 2021.

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*Mobilizing Mankind to Manage Climate Change*

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